

MPX 423 A

MEDIA PRESENTATION MATRIX SWITCHER



The Extron MPX 423 A is a media presentation matrix switcher that merges three independent matrix switchers into a single, compact enclosure: a 4x2 VGA switcher, a 4x2 S-video switcher, and a 4x2 composite video switcher. In addition, the MPX 423 A offers a 12x2 stereo audio switcher that supports both single and separate switching modes.

- Three matrix switchers in one enclosure:
 - 4x2 VGA and stereo audio switcher
 - 4x2 S-video and stereo audio switcher
 - 4x2 composite video and stereo audio switcher
- 350 MHz (-3 dB) RGB video bandwidth
- Two operating modes: Single Switcher or Separate Switcher
- Digital Sync Validation Processing (DSVP™)
- RGB mute
- Audio output volume control
- Input audio gain and attenuation
- Audio breakaway
- RS-232 control
- IP Link™ Ethernet control
- Rugged, metal enclosure
- Versatile mounting options
- Internal international power supply



Extron® Electronics

www.extron.com

DESCRIPTION

The Extron **MPX 423 A** Media Presentation Matrix Switcher is a cost-effective solution for expanding projector input capabilities, while providing an additional output for a second display used in a presentation or for preview monitoring. This compact, integrator-friendly matrix switcher is ideal for a variety of small-scale applications including classrooms, training and conference facilities, and sophisticated home theaters.

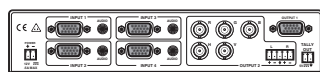
When switching the inputs of the MPX 423 A, the user can choose between the Single Switcher mode and Separate Switcher mode. Single Switcher mode turns the MPX 423 A into a single 12 input switcher that routes the signals of the input to the outputs of its group. Outputs of the other groups are muted, while the audio output is restricted to its own group. This is especially useful for feeding projectors or plasmas with auto switching capability.

In Separate Switcher mode, the MPX 423 A becomes three switchers in one box, enabling independent switching to the output of any given I/O group. The MPX 423 A also offers a 12x2 audio switcher that can access the audio of all three video groups. Balanced and unbalanced audio inputs and outputs are provided on convenient captive screw connectors.

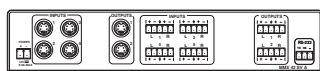
Control of the MPX 423 A is provided via the front panel, RS-232, and/or IP Link™ ethernet control. Housed in a 1U, full rack width metal enclosure, the MPX 423 A can be easily mounted into any rack or podium, or under a desk.

Three Matrix Switchers in One

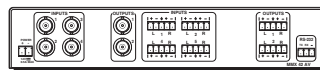
MPX 423 A	Video Signal Type	Video Connectors	Inputs	Outputs
1	VGA	15-pin HD	4	2
2	S-Video	4-pin mini DIN	4	2
3	Composite Video	BNC	4	2



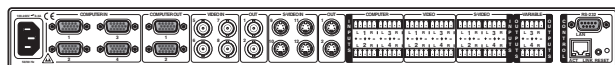
4 Input VGA and Stereo Audio Switcher



4 Input S-video and Stereo Audio Switcher



4 Input Composite Video and Stereo Audio Switcher



MPX 423 A

FEATURES

- **Bandwidth** – 350 MHz (-3 dB) RGB video bandwidth maintains signal integrity.
- **Single Switcher mode** – Allows one-touch switching. When one of the 12 inputs is accessed, the signals of the input will be routed to the outputs of its group. Outputs of the other groups are muted, while audio output is restricted to its own group.
- **Separate Switcher mode** – Allows independent switching to the output of any given I/O group. This effectively divides the MPX 423 A into three separate switchers in one box.
- **RGB Mute** – Using IP Link or the RS-232 serial port, a user can mute the video outputs, all at once or individually. The image is muted by removing the RGB signals, while leaving the sync signals active, allowing the display to be restored completely without any visible glitch or distortion.
- **Video genlock (for composite and S-video)** – The MPX 423 A includes video genlock capabilities by locking to the first input of the composite video group (input five) and the first input of the S-video group (input nine). This allows for vertical interval switching and ensures smooth and glitch-free transitions.
- **Digital Sync Validation Processing (DSVP™)** – Extron's exclusive DSVP verifies active sources by displaying horizontal and vertical scan rate information. This allows the monitoring of input signal status information, as well as the scan rate for the computer signal inputs.
- **Input audio gain and attenuation (adjustable via RS-232)** – The MPX 423 A allows users to set the level of audio gain or attenuation (-12 dB to +12 dB). Individual input audio levels may be adjusted so there are no noticeable volume differences when switching between sources.
- **Speed-sensitive volume control** – Adjusting audio volume can be done in 0.5dB or 2.5dB increments, depending on how fast the volume adjustment knob is turned. This automatic sensitivity control allows the user to easily fine-tune the audio volume.
- **Audio breakaway** – The MPX 423 A provides the capability to break away an audio signal from its corresponding video signal. Audio breakaway switching can be done via the front panel, ethernet or RS-232.
- **RS-232 control** – A rear panel, RS-232 port enables control via a third party control system. Extron's Simple Instruction Set (SIS™) allows for quick and easy programming.
- **IP Link™** – Specifically engineered to meet the needs of professional A/V environments, IP Link-enabled products offer an integrated Web server with high performance architecture, global compatibility with industry standard Ethernet communication protocols, multi-user support, and a Web-based asset management application specifically designed to work with products that include IP Link technology.
- **Downloadable firmware updates** – The latest firmware can be conveniently downloaded from the Extron Web site. Updates for new features and capabilities can be easily upgraded through the RS-232 or the IP Link Ethernet port.
- **Front panel security lockout** – Selectable via the front panel controls, RS-232, and IP Link, the front panel security lockout feature locks all input buttons and audio functions, preventing unauthorized tampering or adjustments.
- **Versatile mounting options** – The MPX 423 A is housed in a rugged, 1U, full rack width metal enclosure, and can be easily mounted into any rack or podium, or under a desk.
- **Internal international power supply** – The autoswitchable, internal power supply provides worldwide power compatibility.

VIDEO

Routing	(3) 4 x 2 matrix switchers
Gain	Unity
Bandwidth	
RGB signals	350 MHz (-3 dB)
S-video or composite video signals ..	150 MHz (-3 dB)
Differential phase error.....	1.0° at 3.58 MHz and 4.43 MHz
Differential gain error.....	1.0% at 3.58 MHz and 4.43 MHz
Crosstalk (RGB signals).....	<-50 dB @ 10 MHz, <-30 dB @ 100 MHz
Switching speed	
RGB signals' sync	<5 ms (max.)
RGB, S-video, composite video.....	100 ms

VIDEO INPUT

Number/signal type	
RGB/VGA inputs	4 RGBHV, RGBS, RGsB, RsGsBs, component video
S-video inputs.....	4 S-video
Composite video inputs	4 composite video
Connectors	
RGB/VGA inputs	4 female 15-pin HD
S-video inputs.....	4 female 4-pin mini DIN
Composite video inputs	4 female BNC
Nominal level.....	1 V p-p for Y of component video and S-video, and for composite video
	0.7 V p-p for RGB
	0.3 V p-p for R-Y and B-Y of component video, and for C of S-video
Minimum/maximum levels	
RGB/VGA inputs	Analogue: 0.3 V to 1.5 V p-p with no offset
S-video inputs.....	Analogue: 0.5 V to 2.0 V p-p with no offset
Composite video inputs	Analogue: 0.5 V to 2.0 V p-p with no offset
Impedance.....	75 ohms
Horizontal frequency	15 kHz to 145 kHz
Vertical frequency.....	30 Hz to 170 Hz
Return loss	
RGB/VGA inputs	<-40 dB @ 5 MHz
S-video inputs.....	<-30 dB @ 5 MHz
Composite video inputs	<-30 dB @ 5 MHz

VIDEO OUTPUT

Number/signal type	
RGB/VGA outputs	2 RGBHV, RGBS, RGsB, RsGsBs, component video
S-video outputs.....	2 S-video
Composite video outputs	2 composite video
Connectors	
RGB/VGA outputs	2 female 15-pin HD
S-video outputs.....	2 female 4-pin mini DIN
Composite video outputs	2 female BNC
Nominal level.....	1 V p-p for Y of component video and S-video, and for composite video
	0.7 V p-p for RGB 0.3 V p-p for R-Y and B-Y of component video, and for C of S-video
Minimum/maximum levels	
RGB/VGA outputs	0.3 V to 1.5 V p-p
S-video outputs.....	0.4 V to 2.0 V p-p
Composite video outputs	0.4 V to 2.0 V p-p
Impedance.....	75 ohms
Return loss	-40 dB @ 5 MHz
RGB/VGA inputs	<-40 dB @ 5 MHz
S-video inputs.....	<-30 dB @ 5 MHz
Composite video inputs	<-30 dB @ 5 MHz
DC offset	
RGB/VGA outputs	±5 mV with input at 0 offset
S-video outputs.....	1.5 V with input at 0 offset
Composite video outputs	1.5 V with input at 0 offset
Switching type (S-video and/or composite video) Vertical interval	

SYNC

Input type (RGB/VGA group)	RGBHV, RGBS, RGsB, RsGsBs
Output type (RGB/VGA group)	RGBHV, RGBS, RGsB, RsGsBs (follows input)
Standards.....	NTSC 3.58, NTSC 4.43, PAL, SECAM
Input level	1.9 V to 5.0 V p-p
Output level.....	TTL: 5.0 V p-p, unterminated
Input impedance	510 ohms
Output impedance.....	75 ohms

Max input voltage	5.0 V p-p
Max. propagation delay.....	30 ns
Max. rise/fall time	4.2 ns
Polarity.....	Positive or negative (follows input)

AUDIO

Routing	12 x 2 stereo matrix switcher
Gain.....	Unbalanced output: -6 dB; balanced output 0 dB
Frequency response	20 Hz to 20 kHz, ±0.05 dB
THD + Noise	0.03% @ 1 kHz, 0.3% @ 20 kHz at nominal level
S/N	>90 dB, output 21 dBu, balanced, at maximum output (unweighted)
Crosstalk	<-120 dB @ 1 kHz, fully loaded
Stereo channel separation	>80 dB @ 1 kHz
CMRR.....	>75 dB @ 20 Hz to 20 kHz
Volume range.....	-100 dB to 0 dB (volume numbers 0 to 100 in 0.5 dB steps)

NOTE: Attenuation = (volume number - 100).
The default is -30 dB = volume number 70.

AUDIO INPUT

Number/signal type	12 stereo, balanced/unbalanced
Connectors	(12) 3.5 mm captive screw connectors, 5 pole
Impedance.....	>25k ohms unbalanced, 50k ohms balanced, DC coupled
Nominal level.....	-10 dBV (316 mVrms)
Maximum level	+20 dBu, (balanced or unbalanced) at 1%THD+N
Input gain adjustment	-12 dB to +12 dB, adjustable per input

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

AUDIO OUTPUT

Number/signal type	2 stereo, balanced/unbalanced
Connectors	(2) 3.5 mm captive screw connectors, 5 pole
Impedance.....	50 ohms unbal., 100 ohms bal.
Gain error	±0.1 dB channel to channel
Maximum level (Hi-Z)	>+20 dBu, balanced or unbalanced at 1%THD+N

CONTROL/REMOTE — SWITCHER

Serial control port	RS-232, 9-pin female D connector
Baud rate and protocol	9600 baud (default), 8 data bits, 1 stop bit, no parity
Serial control pin configurations.....	2 = TX, 3 = RX, 5 = GND
Ethernet control port	1 RJ-45 female connector
Ethernet data rate	10/100Base-T, half/full duplex with autotdetect
Ethernet protocol.....	ARP, DHCP, ICMP (ping), TCP/IP, Telnet, HTTP
Program control.....	Extron's control/configuration program for Windows® Extron's Simple Instruction Set - (SIS™) Microsoft® Internet Explorer, Netscape® Navigator®, Telnet

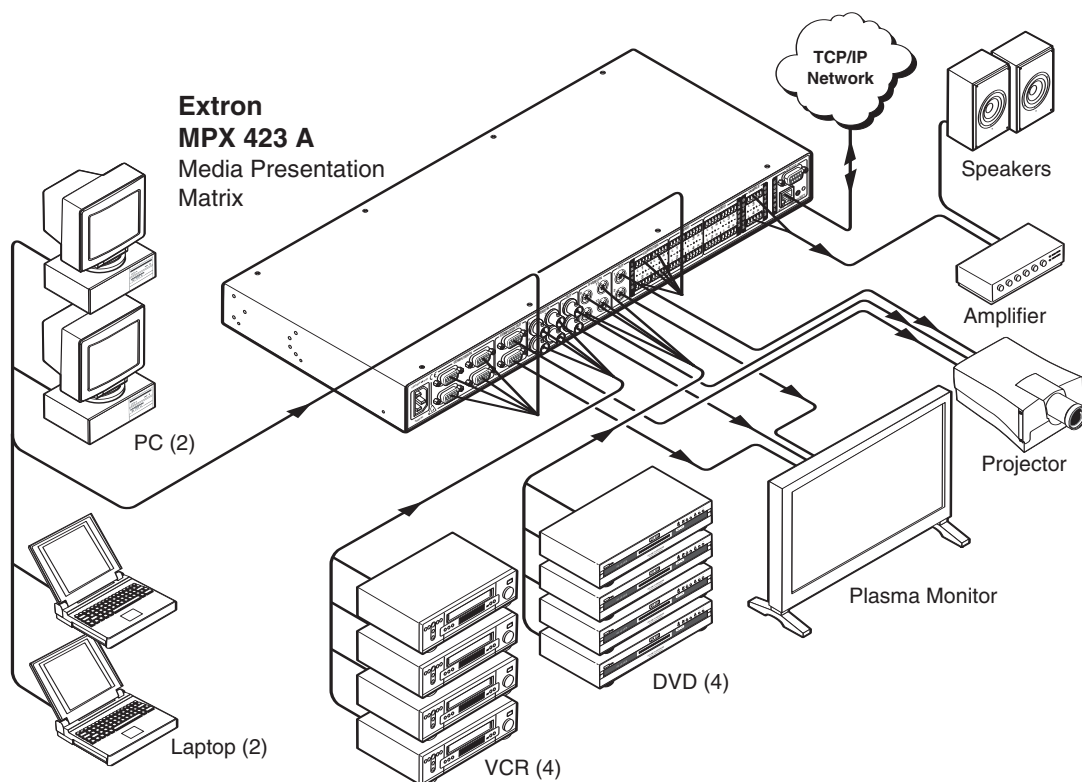
GENERAL

Power.....	100 VAC to 240 VAC, 50/60 Hz, 15 watts, internal, autoswitchable
Rack mount	Yes, with included brackets, part #70-077-03 Also furniture mountable with optional Under-Desk Mounting Kit, part #70-222-01
Enclosure type	Metal
Enclosure dimensions	1.75" H x 17.4" W x 8.5" D (1U high, full rack wide) 4.4 cm H x 44.2 cm W x 21.6 cm D (Depth excludes connectors and knob. Width excludes rack ears.)
Product weight	7.0 lbs (3.2 kg)
Shipping weight.....	10 lbs (5 kg)
DIM weight	
International	11 lbs (5 kg)
Listings.....	UL, CUL
Compliances	CE, FCC Class A, VCCI, AS/NZS, ICES

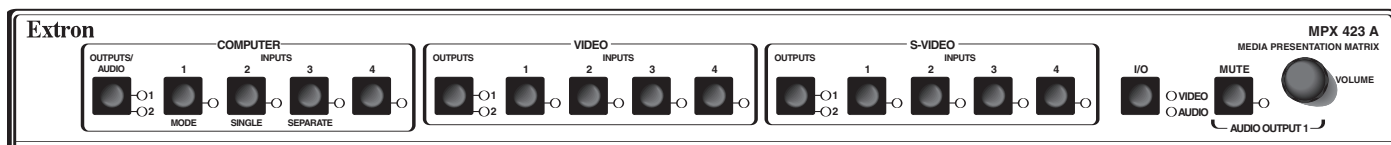
NOTE: All nominal levels are at ±10%

Model	Part Number
MPX 423 A	60-683-01

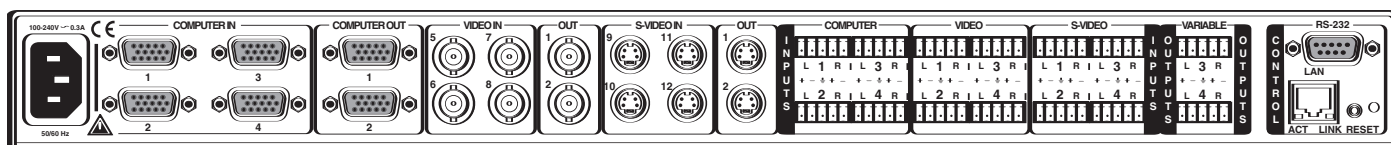
APPLICATION DIAGRAM



PANEL DRAWINGS



Front



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